

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1-21. (canceled)

22. (new) A gearless cable-operated elevator without machine room, the elevator comprising:

a cage;

a counterweight;

a plurality of carrier cables;

cage guide rails;

counterweight guide rails;

a drive sheave; and

a counter sheave;

wherein the cage and the counterweight are supported by the plurality of carrier cables,

wherein the cage is guided by the cage guide rails,

wherein the counterweight is guided by the counterweight guide rails,

wherein the drive sheave and the counter sheave are spaced apart from each other,

wherein the plurality of carrier cables wraps at least partially around the drive sheave a first time, at least partially around the counter sheave a first time, at least partially around the drive sheave a second time, and at least partially around the counter sheave a second time,

wherein the drive sheave is configured to act on the plurality of carrier cables in order to move the cage and the counterweight,

wherein each cable of the plurality of carrier cables is a steel cable,

wherein each cable of the plurality of carrier cables has a nominal diameter greater than 5 mm and less than 7 mm,

wherein the drive sheave includes semicircular grooves,

wherein the semicircular grooves include undercut portions,

wherein the undercut portions have a width greater than 1 mm and less than 3 mm,

wherein the drive sheave is configured so that the plurality of carrier cables runs in the semicircular grooves, and

wherein a ratio of a diameter of the drive sheave to a nominal diameter of each cable of the plurality of carrier cables is greater than or equal to 30:1 and less than or equal to 40:1.

23. (new) The elevator of claim 22, wherein the ratio of the diameter of the drive sheave to the nominal diameter of each cable of the plurality of carrier cables is substantially 34:1.

24. (new) The elevator of claim 22, wherein the elevator is configured for cage loads less than or equal to 2,000 kg.

25. (new) The elevator of claim 22, wherein the elevator is configured for cage loads greater than or equal to 300 kg and less than or equal to 1,000 kg.

26. (new) The elevator of claim 22, wherein an axis of rotation of the drive sheave is parallel to an axis of rotation of the counter sheave.

27. (new) The elevator of claim 26, wherein a plane in which the drive sheave rotates is displaced from a plane in which the counter sheave rotates.

28. (new) The elevator of claim 22, wherein an axis of rotation of the drive sheave is perpendicular to an axis of rotation of the counter sheave.

29. (new) The elevator of claim 22, wherein the elevator is configured so that the drive sheave is higher than the counter sheave.

30. (new) The elevator of claim 22, wherein a suspension ratio of the cage is 1:1 or 2:1.

31. (new) The elevator of claim 22, wherein the drive sheave and the counter sheave are operatively attached to the cage.

32. (new) The elevator of claim 31, wherein a suspension ratio of the cage is 1:1, 2:1, or 4:1.

33. (new) The elevator of claim 22, wherein the drive sheave is operatively attached to a top of the cage, and wherein the counter sheave is operatively attached to the top of the cage.

34. (new) The elevator of claim 22, wherein the drive sheave is operatively attached to a bottom of the cage, and wherein the counter sheave is operatively attached to the bottom of the cage.

35. (new) The elevator of claim 22, wherein the counter sheave serves as a distancing deflection sheave.

36. (new) A gearless cable-operated elevator without machine room, the elevator comprising:

a cage;

a counterweight;

a plurality of carrier cables;

cage guide rails;

counterweight guide rails;

a drive sheave; and

a counter sheave;

wherein the cage and the counterweight are supported by the plurality of carrier cables,

wherein the cage is guided by the cage guide rails,

wherein the counterweight is guided by the counterweight guide rails,

wherein the drive sheave and the counter sheave are spaced apart from each other,

wherein the plurality of carrier cables wraps at least partially around the drive sheave a first time, at least partially around the counter sheave a first time, at least partially around the drive sheave a second time, and at least partially around the counter sheave a second time,

wherein the drive sheave is configured to act on the plurality of carrier cables in order to move the cage and the counterweight,

wherein each cable of the plurality of carrier cables is a steel cable,

wherein each cable of the plurality of carrier cables has a nominal diameter greater than 5 mm and less than 7 mm,

wherein the drive sheave includes semicircular grooves,

wherein the semicircular grooves include undercut portions,

wherein the undercut portions have a width greater than 1 mm and less than 3 mm,

wherein the drive sheave is configured so that the plurality of carrier cables runs in the semicircular grooves, and

wherein a ratio of a diameter of the drive sheave to a nominal diameter of each cable of the plurality of carrier cables is substantially 30:1.

37. (new) A gearless cable-operated elevator without machine room, the elevator comprising:

a cage;

a counterweight;

a plurality of carrier cables;

cage guide rails;

counterweight guide rails;

a drive sheave; and

a counter sheave;

wherein the cage and the counterweight are supported by the plurality of carrier cables,

wherein the cage is guided by the cage guide rails,

wherein the counterweight is guided by the counterweight guide rails,

wherein the drive sheave and the counter sheave are spaced apart from each other,

wherein the plurality of carrier cables wraps at least partially around the drive sheave a first time, at least partially around the counter sheave a first time, at least partially around the drive sheave a second time, and at least partially around the counter sheave a second time,

wherein the drive sheave is configured to act on the plurality of carrier cables in order to move the cage and the counterweight,

wherein each cable of the plurality of carrier cables has a nominal diameter greater than 5 mm and less than 7 mm, and

wherein a ratio of a diameter of the drive sheave to a nominal diameter of each cable of the plurality of carrier cables is greater than or equal to 30:1 and less than or equal to 40:1.

38. (new) The elevator of claim 38, wherein each cable of the plurality of carrier cables is a steel cable.

39. (new) The elevator of claim 38, wherein the drive sheave includes semicircular grooves.

40. (new) The elevator of claim 39, wherein the semicircular grooves include undercut portions.

41. (new) The elevator of claim 40, wherein the undercut portions have a width greater than 1 mm and less than 3 mm.